

**REMARKS**

Reconsideration is requested.

Claims 2, 5, 8, 11-24, 26 and 29 have been canceled, without prejudice. Claims 1-7, 9, 10 and 25-34 are pending. Claims 1, 3, 4, 6, 7, 9, 10, 25, 27, 28 and 30-34 will be pending upon entry of the present Amendment. Entry of the present Amendment is requested.

The claims have been revised to obviate the objection to claims 1, 3 and 9 stated on page 2 of the Office Action dated June 20, 2008. Entry of the present Amendment and withdrawal of the objection is requested.

The Section 112, second paragraph, rejection of claims 1-7, 9-10 and 25-34 is obviated by the above amendments. Entry of the present Amendment and withdrawal of the rejection are requested.

The Section 112, first paragraph "enablement", rejection of claims 1-7, 9, 10 and 25-34 is traversed. Reconsideration and withdrawal of the rejection are requested in view of the above and the following comments.

The applicants submit that one of ordinary skill will be able to make and use the claimed invention, without undue experimentation, from the teachings of the specification as well as the generally advanced level of skill in the art. The applicants submit that type 2 metallothionein protein having 95% identity to SEQ ID NO: 2 will be being useful for increasing (seed) yield in a method of the claimed invention. Type 2 metallothioneins are very well conserved and a person of ordinary skill in the art would readily recognize that the effects of increased seed yield obtained using the

metallothionien of SEQ ID NO: 2 could equally be obtained with any sequence having 95% identity to SEQ ID NO: 2. The Examiner is requested to see, for example, the consensus sequence described on page 7, line 8 of the application. As explained in the present specification, the metallothionein of SEQ ID NO: 2 comprises a conserved N-terminal domain typical of type 2 metallothioneins as defined by Cobbett and Goldsbrough (2002).

The claims are supported by an enabling disclosure. Withdrawal of the Section 112, first paragraph "enablement", rejection is requested.

The Section 112, first paragraph "written description", rejection of claims 1-7, 9,10 and 25-34 is traversed. Reconsideration and withdrawal of the rejection are requested as the applicants believe that metallothioneins are well known in the art and are well defined in the application, for example through the abovementioned consensus sequence referred to on page 7 of the application or for example in Figure 1 which provides several examples of type 2 metallothioneins and their conserved regions. Withdrawal of the Section 112, first paragraph "written description", rejection is requested.

The Section 102 rejection of claims 25-31, 33 and 34 over Basel (WO 98/36084), is traversed. Reconsideration and withdrawal of the rejection are requested in view of the following distinguishing remarks.

The applicants submit that the cited art fails to teach or suggest the claimed methods involving selecting for plants having increased seed yield. The only mention of seeds in Basel et al. is in relation to seeds obtained from the plants (see for example

page 17 of the cited document). Furthermore, the currently pending claims only cover a type 2 metallothionein. The tables below show comparative data using a type 1 (MT1) and a type 3 (MT3) metallothionein and show that an increase in seed yield (total weight of seeds) would not be obtained with all metallothioneins. The Examiner will note the very high p values, which indicates that the MT1 and MT3 genes are not responsible for the phenotype observed and therefore the differences are not significant.

PRO0129::MT1 on IY	T1 plants	
Parameter	% difference	p-value
Total number of seeds	-1	0.73
Total weight of seeds	0	0.97
Number of primary panicles	1	0.94

PRO0129::MT3 on IY	T1 plants	
Parameter	% difference	p-value
Total number of seeds	3	0.46
Total weight of seeds	-5	0.34
Number of primary panicles	9	0.49

The claims are submitted to be patentable over the cited art and withdrawal of the Section 102 rejection is requested.

The Section 103 rejection of claims 1-7, 9, 10 and 25-34 over Basel in view of Zhou (Molecular Gen. Genet. 248:318-328, 1995), is traversed. Reconsideration and withdrawal of the rejection are requested as the applicants believe that an increase in growth rate does not automatically result in an increase in yield. An increase in growth rate may be confined to certain tissues or organs or to certain developmental stages in a plant and therefore it would not have been obvious that an increase in growth rate would result in increased yield. Depending on the plant in question, an increase in the number or girth of the stems may constitute increased yield, whilst for others it may be

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an increase in leaf, tuber or seed size or number that constitutes an increase in yield.

There is no suggestion in Zhou that metallothioneins could be used to increase seed yield in plants, as defined in the claims.

The claimed invention would not have been obvious in view of the cited combination of art.

Withdrawal of the Section 103 rejection is requested.

The claims are submitted to be in condition for allowance and entry of the present Amendment and a Notice to that effect is requested. The Examiner is requested to contact the undersigned, preferably by telephone, in the event anything further is required in this regard.

Respectfully submitted,

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